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IN THE UNITED STATES DISTRICT COURT

FOR THE DISTRICT OF ALASKA

In re Crash of Aircraft N93PC	)	No. 3:15-cv-0112-HRH
	)	[Consolidated with
on July 7, 2013, at Soldotna, Alaska	)	No. 3:15-cv-0113-HRH and
_____	)	No. 3:15-cv-0115-HRH]

### ORDER

#### Texas Turbine Conversions, Inc.’s Motion for Summary Judgment

Texas Turbine Conversions, Inc. moves for summary judgment.<sup>1</sup> This motion is opposed.<sup>2</sup> Oral argument was requested and has been heard.

#### Facts

On July 7, 2013, a deHavilland DHC-3 “Otter” airplane operated by Rediske Air, Inc. and piloted by Walter Rediske crashed shortly after takeoff from the Soldotna Airport. Rediske and all of the passengers on board were killed in the crash. Plaintiffs, which are the estates of the passengers and Rediske, assert wrongful death, negligence, strict product liability, and breach of warranty claims against defendants.

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<sup>1</sup>Docket No. 267.

<sup>2</sup>Docket Nos. 295 and 297.

The accident aircraft was modified in 2010. As part of that modification, Recon Air installed a Texas Turbine conversion kit which converts a standard piston engine to a turbine engine. Texas Turbine provides the conversion kit pursuant to an FAA approved supplemental type certificate, STC #SA09866C. “The Texas Turbine STC provides a turboprop engine with up to 1000 hp takeoff power, a larger propeller, and a forward extension of the fuselage.”<sup>3</sup> The conversion kit includes the engine and the parts necessary to mount a turbine engine in the aircraft.<sup>4</sup> More specifically, the “conversion kit includes a new propellor, engine mount, starter/generator, instruments, engine cowlings, batteries, oil cooler, generator control unit, steel enclosures for batteries, and electrical relays, bleed-air ejector vacuum system, bleed-air heater system, and other miscellaneous components.”<sup>5</sup> The turbine engine that was installed in the accident aircraft was manufactured by Honeywell. Texas Turbine had no role in the manufacture of the engine.

As part of the 2010 modification, Recon Air also installed a Baron Short Takeoff & Landing (STOL) kit. The STOL kit was provided by Stolairus Aviation, Inc.

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<sup>3</sup>Expert Report of John Cochran at 4, Exhibit A at 2, Texas Turbine Conversions, Inc.’s Motion for Summary Judgment, Docket No. 267.

<sup>4</sup>Deposition of Robert Mercer at 17:5-15, Exhibit D, Plaintiffs’ Opposition to Texas Turbine Conversions, Inc. Motion for Summary Judgment, Docket No. 295.

<sup>5</sup>Texas Turbine Conversions, Inc.’s Motion for Summary Judgment at 3, n.8, Docket No. 267.

Texas Turbine obtained STC #SA09866C on May 5, 2001.<sup>6</sup> Texas Turbine contends that “[p]rior to obtaining the STC, [it] engaged in FAA-supervised flight testing of a DHC-3 aircraft with its turbine conversion kit installed, including testing with an aircraft over maximum gross weight and the [center of gravity] positioned beyond the published aft c.g. limit.”<sup>7</sup> Texas Turbine contends that this “flight testing was sufficient for the FAA to approve the STC and to approve a published aft center of gravity (‘c.g.’) limit of 152.2 inches.”<sup>8</sup>

Texas Turbine contends that plaintiffs’ claims against it are all based on the contention “that it failed to perform adequate flight testing to substantiate the effect of its conversion kit on a DHC-3’s aft c.g. limit.”<sup>9</sup> Plaintiffs contend that their claims against Texas Turbine are based on two theories of liability, “one for negligence for failure to account for the aircraft’s shift in the neutral point due to the installation of the conversion kit, and the other as the seller of a defective product.”<sup>10</sup>

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<sup>6</sup>Orloff Expert Report Concerning Crash of DHC-3 Otter N93PC at 3, Exhibit C at 2, Texas Turbine Conversions, Inc.’s Motion for Summary Judgment, Docket No. 267.

<sup>7</sup>Texas Turbine Conversions, Inc.’s Motion for Summary Judgment at 4, Docket No. 267.

<sup>8</sup>Id.

<sup>9</sup>Id. at 6.

<sup>10</sup>Plaintiffs’ Opposition to Texas Turbine Conversions, Inc. Motion for Summary Judgment at 4-5, Docket No. 295.

At oral argument, Texas Turbine’s counsel represented that Texas Turbine is only moving for summary judgment on plaintiffs’ negligence theory and that Texas Turbine will address plaintiffs’ seller theory of liability<sup>11</sup> in other ways. Thus, for purposes of the instant motion, the court has only considered whether Texas Turbine is entitled to summary judgment on plaintiffs’ negligence theory of liability.

### Discussion

Summary judgment is appropriate when there are no genuine issues of material fact and the moving party is entitled to judgment as a matter of law. Fed. R. Civ. P. 56(a). The initial burden is on the moving party to show that there is an absence of genuine issues of material fact. Celotex Corp. v. Catrett, 477 U.S. 317, 325 (1986). If the moving party meets its initial burden, then the non-moving party must set forth specific facts showing that there is a genuine issue for trial. Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 247-48 (1986). In deciding a motion for summary judgment, the court views the evidence of the non-movant in the light most favorable to that party, and all justifiable inferences are also to be drawn in its favor. Id. at 255. “[T]he court’s ultimate inquiry is to determine whether the ‘specific facts’ set forth by the nonmoving party, coupled with undisputed background or contextual

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<sup>11</sup>The court would note that contrary to Texas Turbine’s contention, plaintiffs did not raise the seller liability theory for the first time in their opposition to the instant motion. Plaintiffs’ complaints contain allegations that the sellers of the component parts of the accident aircraft were liable under a products liability theory. First Amended Complaint for Damages [etc.] at 10-12, ¶¶ 43-58, Docket No. 137; Second Amended Complaint [etc.] at 8-11, ¶¶ 34-49, Docket No. 135.

facts, are such that a rational or reasonable jury might return a verdict in its favor based on that evidence.” Arandell Corp. v. Centerpoint Energy Services, Inc., 900 F.3d 623, 628–29 (9th Cir. 2018) (quoting T.W. Elec. Service, Inc. v. Pacific Elec. Contractors Ass’n, 809 F.2d 626, 631 (9th Cir. 1987)).

Negligence requires a plaintiff to show “that: (1) the defendants owed him a duty of care, (2) the defendants breached this duty, (3) he was injured, and (4) his injury was the factual and proximate result of the defendants’ breach.” Regner v. North Star Volunteer Fire Dep’t Inc., 323 P.3d 16, 21 (Alaska 2014). Plaintiffs’ negligence theory is based on the contention that Texas Turbine failed “to account for the aircraft’s shift in the neutral point due to the installation of the conversion kit[.]”<sup>12</sup> This theory is supported by the opinion of one of plaintiffs’ expert, Dr. Cochran. Dr. Cochran opined that “[t]he accident aircraft . . . crashed because it was unstable in pitch[.]” that Texas Turbine “should have determined the effects of its conversion on the neutral point location in [a] converted DHC-3 aircraft” and that Texas Turbine “should have conducted flight tests to determine the effect[] of [its] STC[] on the neutral point location in a DHC-3 aircraft.”<sup>13</sup>

In their arguments, the parties discuss the concepts of center of gravity and the neutral point of an aircraft. These are different concepts but both affect the stability of an aircraft

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<sup>12</sup>Plaintiffs’ Opposition to Texas Turbine Conversions, Inc. Motion for Summary Judgment at 4, Docket No. 295.

<sup>13</sup>Expert Report of John E. Cochran, Jr., Exhibit A at 14-15, Memorandum in Support of RAC’s Motion in Limine No. 2 (Cochran), Docket No. 312.

in flight. Center of gravity has to do with the longitudinal balance point of an aircraft. The neutral point, sometimes referred to as the center of lift, has to do with the lift produced by an aircraft's wing in flight.

Texas Turbine first argues that plaintiffs' negligence theory fails because the undisputed evidence shows that it conducted adequate flight testing in 2000 when it obtained STC #SA09866C. Texas Turbine argues that plaintiffs' experts agreed that this 2000 flight testing was adequate. Dr. Cochran testified that

I have no reason to question the accuracy of the [flight test] data. It appeared to be -- the flight tests, multiple ones, appeared to be done in the proper manner with FAA representation and Texas Turbine pilots and so forth. And so as far as it goes, I would say that it was -- there was no question about the test.<sup>[14]</sup>

Dr. Cochran also testified that "I'm not sure that Texas Turbine would have to -- I'm pretty sure they wouldn't have to, and they didn't, test with a STOL kit on the aircraft because they were testing to see if their conversion still left an airworthy aircraft."<sup>15</sup> And, Dr. Cochran testified that "I can't fault Texas Turbine for doing what the FAA said they needed to do to get the aft CG" and "that Texas Turbine apparently did what was required of them as far as the FAA is concerned."<sup>16</sup> And, Colin Sommer, another one of plaintiffs' experts, testified that

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<sup>14</sup>Deposition of John E. Cochran at 29:16-22, Exhibit B, Texas Turbine Conversions, Inc.'s Motion for Summary Judgment, Docket No. 267.

<sup>15</sup>Id. at 102:15-20.

<sup>16</sup>Id. at 123:15-16; 124:8-9.

[i]n [the 2000] flight testing, [Texas Turbine] established that gross weight is not an issue, which I wholeheartedly agree with because they did their flight testing at 8300 pounds. And they loaded it to full aft CG, which at that time was 152, and they didn't have any significant problems with longitudinal stability even with full flaps.<sup>[17]</sup>

Thus, Texas Turbine argues that it is undisputed that the 2000 flight testing was adequate, which Texas Turbine contends means that plaintiffs' negligence theory fails. If the 2000 flight testing was adequate, then Texas Turbine argues that plaintiffs will not be able to prove that Texas Turbine breached its duty of care.

However, Dr. Cochran raised some questions about the 2000 flight tests. At Dr. Cochran's deposition, the following exchange took place:

Q Do you agree that in those flight tests the aircraft handled acceptably in all flight regimes?

A Most of them.

Q In which flight regime did the flight test not show that the aircraft handled acceptably?

A There's some question about what happens when . . . they were testing the aircraft at aft CG and gross weight actually a little bit over 8,000 pounds with . . . landing flaps and doing stalls. Because during that test they got a rolling of the aircraft and yawing that was not exactly what you would want to have because the aircraft rolled 30 degrees or more[.] And you would like for the aircraft to stall in such a way that it just stays wing level and just pitches down after it stalls in a recovery mode.

Q I may --

A Furthermore -- well, there's one more, thing, too, that's a little bit different here. The -- they indicate in the test that they're doing the test at 75 percent torque instead of maybe 100

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<sup>17</sup>Deposition of Colin Sommer at 129:11-17, Exhibit G, Texas Turbine Conversions, Inc.'s Motion for Summary Judgment, Docket No. 267.

percent torque which would imply that . . . they're not conducting the test at full . . . power.

Q And what implication does that have, in your opinion?

A Power affects the stability of the aircraft, application of power. And the application of more power affects the stability more. So that would -- that would change, change things.

Q So recognizing that the flight test showed that the aircraft was operating at 75 percent torque, do you agree that the flight test as reported by Texas Turbine indicated that the aircraft handled acceptably?

A Well, it was accepted. It did not handle as they expected it, I don't think.<sup>[18]</sup>

This testimony shows that Dr. Cochran did not endorse the 2000 flight testing as Texas Turbine contends. And although Texas Turbine characterizes this as “one vague statement” by Dr. Cochran, this testimony is sufficient to raise a fact question as to the extent of Texas Turbine’s duty to test.

But even if there were some ambiguity about the 2000 flight testing, Texas Turbine argues that any ambiguity was dispelled by the 2018 flight testing which was done. Texas Turbine argues that the 2018 flight testing that was done with a DHC-3 aircraft with full flap setting and modified with a Texas Turbine conversion engine and a STOL kit establishes without question that a DHC-3 modified identically to the accident aircraft was completely controllable at the maximum gross weight with the c.g. at the aft limit of 152.2 inches. According to Robert Carducci, a defense expert, the results of this 2018 flight testing “revealed none of the negative flight characteristics opined by either Dr. Cochran or Mr.

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<sup>18</sup>Cochran Deposition at 30:2-31:14, Exhibit B, Plaintiffs’ Opposition to Texas Turbine Conversions, Inc. Motion for Summary Judgment, Docket No. 295.



Sommer. In fact, the aircraft was easy to fly throughout the speed range including takeoff with full landing-flaps, even at the over-weight conditions.”<sup>19</sup> Texas Turbine insists that the 2018 flight testing conclusively established that the installation of the conversion kit did not affect the stability of a DHC-3 aircraft. Texas Turbine argues that it is telling that plaintiffs submitted no rebuttal report from Dr. Cochran after the 2018 flight testing in which he questioned the results of this testing. Texas Turbine insists that the 2018 flight testing proves that there was no breach of duty here.

Plaintiffs argue, however, that there are questions of fact as to what the 2018 flight test proves because of differences between the test aircraft and the accident aircraft. For example, plaintiffs point out that the test aircraft did not carry the same number of passengers, was not loaded to the same center of gravity as the accident flight, and the same airspeeds were not replicated.

The results of the 2018 flight test appear to substantially undermine plaintiffs’ negligence theory as to Texas Turbine. However, the test results are not sufficient to give rise to a conclusion that no reasonable jury could find that the installation of the Texas Turbine conversion kit did not change the neutral point of the accident aircraft and did not affect the stability of a DHC-3 aircraft.

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<sup>19</sup>Carducci Rebuttal Report at 33-34, Exhibit H, Texas Turbine Conversions, Inc.’s Motion for Summary Judgment, Docket No. 267.

But even if Texas Turbine breached its duty, Texas Turbine argues that plaintiffs have no evidence that this breach was a legal cause of the accident. Under Alaska law, “[n]egligent conduct may be found to be the legal cause of harm if the negligent act was more likely than not a substantial factor in bringing about [the] injury[.]” Gonzales v. Krueger, 799 P.2d 1318, 1320 (Alaska 1990) (citation omitted). “Normally, in order to satisfy the substantial factor test it must be shown both that the accident would not have happened but for the defendant’s negligence and that the negligent act was so important in bringing about the injury that reasonable men would regard it as a cause and attach responsibility to it.” Id. (citation omitted). Determinations of proximate or legal cause “usually involve questions of fact within the province of the jury; proximate [or legal] cause becomes a matter of law only where reasonable minds cannot differ.” Winschel v. Brown, 171 P.3d 142, 148 (Alaska 2007).

Texas Turbine contends that the evidence clearly shows that the “cause of the accident was the pilot’s improper loading of the aircraft, resulting in a center of gravity far aft of the published limit and in excess of allowable gross weight.”<sup>20</sup> In support of this contention, Texas Turbine cites to the National Transport Safety Bureau (NTSB) investigative report. In its “Brief of Accident”, adopted on October 20, 2015, the NTSB stated that at the time of the accident, “the airplane weight would have exceeded the maximum gross weight of 8,000

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<sup>20</sup>Texas Turbine Conversions, Inc.’s Motion for Summary Judgment at 5, Docket No. 267.

lbs by about 21 lbs and the CG would have been at least 5.5 inches aft of the 152.2-inch limit. . . .”<sup>21</sup> The NTSB also stated that “the airplane exceeded the aft CG limit at takeoff, which resulted in an uncontrollable nose-up pitch leading to an aerodynamic stall.”<sup>22</sup> Texas Turbine also cites to the opinion of its expert, Mark Madden. Madden opines that

the 5.58 inches past the aft CG envelope limit is significant and in my opinion the “apparent” cause of the accident. The total CG envelope range at the maximum airplane weight of 8,000 pounds is very narrow at only 16.4 inches (152.2 inches aft limit minus the forward limit of 135.8 inches). With the total CG range of only 16.4 inches in mind, 5.58 inches past the aft CG limit represents 34% of the total CG range available. In other words, the accident airplane was loaded 34% aft of the aft CG limit and this is extremely noteworthy as there isn’t a commercially manufactured airplane in existence that could fly out of ground effect with that kind of aft CG.[<sup>23</sup>]

Moreover, Texas Turbine argues that even Dr. Cochran testified that Texas Turbine’s failure to do the flight testing he was suggesting should have been done did not cause the accident.<sup>24</sup> And, Texas Turbine contends that the 2018 flight testing that was done establishes without question that a DHC-3 modified identically to the accident aircraft was completely controllable at the maximum gross weight with the c.g. at the aft limit of 152.2. Texas

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<sup>21</sup>Exhibit E at 2, Texas Turbine Conversions, Inc.’s Motion for Summary Judgment, Docket No. 267.

<sup>22</sup>Id.

<sup>23</sup>Madden Expert Report of the Crash of DHC-3 Otter N93PC at 15-16, Exhibit F, Texas Turbine Conversions, Inc.’s Motion for Summary Judgment, Docket No. 267.

<sup>24</sup>Cochran Deposition at 122:12-17, Exhibit B, Texas Turbine Conversions, Inc.’s Motion for Summary Judgment, Docket No. 267.

Turbine argues that no reasonable jury, when viewing all of the foregoing evidence, could conclude that any alleged failure by Texas Turbine was a substantial factor in causing the accident.

In response, plaintiffs argue that the 2018 flight testing does not negate causation as to Texas Turbine because this for-litigation flight testing did not replicate the accident flight. Plaintiffs also take exception to Texas Turbine's reliance on the NTSB report. By statute, "[n]o part of a report of the Board, related to an accident or an investigation of an accident, may be admitted into evidence or used in a civil action for damages resulting from a matter mentioned in the report." 49 U.S.C. § 1154(b). As for Texas Turbine's reliance on Madden's opinion about the cause of the accident, plaintiffs argue that Madden is not an engineer and that he used the wrong formula to reach the conclusion that the accident airplane was loaded 34% aft of the aft CG limit.

Had the foregoing been the only evidence Texas Turbine relied on in support of its argument that plaintiffs could not prove causation, Texas Turbine would have not met its burden on summary judgment to show that there is an absence of material facts. But, Texas Turbine also relies on Dr. Cochran's deposition testimony regarding his opinions.

In his expert report, Dr. Cochran opined that the accident aircraft "crashed because it was unstable in pitch", that "[t]he pitch instability was due to the changes in the neutral point location caused by the installed Stolairus STOL kit, the Texas Turbine conversion, i.e. turbine engine, propeller, and modifications of the aircraft's nose[,]" and that Texas Turbine

“should have determined the effects of its conversion on the neutral point location in [a] converted DHC-3 aircraft” by doing flight testing.<sup>25</sup> Plaintiffs contend that Dr. Cochran was opining that Texas Turbine’s conduct was a substantial factor in causing the accident.

But, at his deposition, when Dr. Cochran was asked whether Texas Turbine’s failure “to do this [flight] testing . . . ultimately cause[d] this accident,” he unequivocally answered “No.”<sup>26</sup> Dr. Cochran went on to say that

with all the information that I’ve seen and uncovered and so forth about the effects of power on the motion and the fact that the neutral point can move, you know, then it’s just my -- it’s my opinion that anytime you increase the power from -- by 50 percent that you should do additional testing to see what happens to the neutral point.<sup>[27]</sup>

Of course, in 2000, Texas Turbine in fact did test a DHC-3 aircraft with the Honeywell turboprop engine which was substantially more powerful than the original equipment engine. But these tests, according to Dr. Cochran, were not at full, 100% power.<sup>28</sup>

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<sup>25</sup>Cochran Expert Report at 13, Exhibit C, Plaintiffs’ Opposition to Texas Turbine Conversions, Inc. Motion for Summary Judgment, Docket No. 295. “At the summary judgment stage,” the court does “not focus on the admissibility of the evidence’s form” but rather “on the admissibility of its contents.” Fraser v. Goodale, 342 F.3d 1032, 1036 (9th Cir. 2003). Dr. Cochran would be able to testify as to his opinions at trial.

<sup>26</sup>Cochran Deposition in 122:13-17, Exhibit B, Texas Turbine Conversions, Inc.’s Motion for Summary Judgment, Docket No. 267.

<sup>27</sup>Id. at 122:17-24.

<sup>28</sup>Id. at 30:20-31:1.

Dr. Cochran was then asked further: “are you saying that that is just generally your belief, or are you saying that that failure to do that additional test in some way actually caused this accident in Soldotna that day?”<sup>29</sup> Rather than repeat his prior “no” answer, Dr. Cochran again equivocates with the following muddy, inarticulate response:

I think that the failure to do that might have -- well, the failure to do that did not reveal whether or not the neutral point moved forward because of the conversion, and so it did not reveal that the aft CG limit probably should be further -further forward if you did other things to the aircraft. So I can’t really . . . in a sense, I can’t fault Texas Turbine for doing what the FAA said they needed to do to get the aft CG.

But I could see that because of this basically tremendous increase in power that they would -- they might think about doing something like that. And it would have been good to do. I can’t really say that -- you know, I can say that it -- that it’s part of what caused the neutral point to move, is the addition of the power and that -- it, in conjunction with the STOL kit and the fact that the flaps were full flaps. All those together, you know, produced the moment. But it may be that it was just the STOL kit and the deflection of the flaps which caused the pitch-up, you know, because it may have been the thing that moved the -- moved the neutral point more than the -- more than the power. It’s - you know, all the -- all these things go together so it’s really hard to eliminate anything.<sup>[30]</sup>

It appears to the court that Dr. Cochran either did not know or could not opine as to whether further flight testing in 2000 at full power would have affected the neutral point or whether the aft CG limit should have been adjusted forward in order to accommodate the full power of the Honeywell engine. Dr. Cochran apparently could not say what role, if any, the

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<sup>29</sup>Id. at 123:4-7.

<sup>30</sup>Id. at 123:8-124:7 (emphasis added).

installation of the Honeywell engine played in causing the Soldotna crash. In light of Dr. Cochran's testimony, the court cannot conclude that no reasonable jury could find that the accident would not have happened but for Texas Turbine's failure to do additional flight testing, and that this failure "was so important in bringing about the injury that reasonable men would regard it as a cause and attach responsibility to it." Gonzales, 799 P.2d at 1320.

### Conclusion

Texas Turbine's motion for summary judgment<sup>31</sup> is denied.

DATED at Anchorage, Alaska, this 29th day of June 2020.

/s/ H. Russel Holland  
United States District Judge

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<sup>31</sup>Docket No. 267.